



CEU Update

A semi-annual publication of the
National Association for Health Professionals

January
2006

Issue
#0106

FIBROMYALGIA

What Is Fibromyalgia?

Fibromyalgia syndrome is a common and chronic disorder characterized by widespread muscle pain, fatigue, and multiple tender points. The word *fibromyalgia* comes from the Latin term for fibrous tissue (*fibro*) and the Greek ones for muscle (*myo*) and pain (*algia*). Tender points are specific places on the body—on the neck, shoulders, back, hips, and upper and lower extremities—where people with fibromyalgia feel pain in response to slight pressure.

Although fibromyalgia is often considered an arthritis-related condition, it is not truly a form of arthritis (a disease of the joints) because it does not cause inflammation or damage to the joints, muscles, or other tissues. Like arthritis, however, fibromyalgia can cause significant pain and fatigue, and it can interfere with a person's ability to carry on daily activities. Also like arthritis, fibromyalgia is considered a rheumatic condition.

You may wonder what exactly *rheumatic* means. Even physicians do not always agree on whether a disease is considered rheumatic. If you look up the word in the dictionary, you'll find it comes from the Greek word *rheum*, which means *flux*—not an explanation that gives you a better understanding. In medicine, however, the term *rheumatic* means a medical condition that impairs the joints and/or soft tissues and causes chronic pain.

In addition to pain and fatigue, people who have fibromyalgia may experience:

- sleep disturbances
- morning stiffness
- headaches
- irritable bowel syndrome
- painful menstrual periods
- numbness or tingling of the extremities
- restless legs syndrome
- temperature sensitivity
- cognitive and memory problems (sometimes referred to as "fibro fog")

Fibromyalgia is a syndrome rather than a disease. Unlike a disease, which is a medical condition with a specific cause or causes and recognizable signs and symptoms, a syndrome is a collection of signs, symptoms, and medical problems that tend to occur together but are not related to a specific, identifiable cause.

Who Gets Fibromyalgia?

According to a paper published by the American College of Rheumatology (ACR), fibromyalgia affects 3 to 6 million - or as many as one in 50 - Americans. For unknown reasons, between 80 and 90 percent of those diagnosed with fibromyalgia are women; however, men and children also can be affected. Most people are diagnosed during middle age, although the symptoms often become present earlier in life.

People with certain rheumatic diseases, such as rheumatoid arthritis, systemic lupus erythematosus (commonly called lupus), or ankylosing spondylitis (spinal arthritis) may be more likely to have fibromyalgia, too.

Several studies indicate that women who have a family member with fibromyalgia are more likely to have fibromyalgia themselves, but the exact reason for this—whether it be hereditary or caused by environmental factors or both—is unknown. One study supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) is trying to identify if certain genes predispose some people to fibromyalgia.

What Causes Fibromyalgia?

The cause of fibromyalgia is unknown, but there are probably a number of factors involved. Many people associate the development of fibromyalgia with a physically or emotionally stressful or traumatic event, such as an automobile accident. Some connect it to repetitive injuries. Others link it to an illness. People with rheumatoid arthritis and other autoimmune diseases, such as lupus, are particularly likely to develop fibromyalgia. For others, fibromyalgia seems to occur spontaneously.

Many researchers are examining other causes, including problems with how the central nervous system (the brain and spinal cord) processes pain.

Some scientists speculate that a person's genes may regulate the way his or her body processes painful stimuli. According to this theory, people with fibromyalgia may have a gene or genes that cause them to react strongly to stimuli that most people would not perceive as painful. However, those genes—if they, in fact, exist—have not been identified.

How is Fibromyalgia Diagnosed?

Research shows that people with fibromyalgia typically see many doctors before receiving the diagnosis. One reason for this may be that pain and fatigue, the main symptoms of fibromyalgia, overlap with many other conditions. Therefore, doctors often have to rule out other potential causes of these symptoms before making a diagnosis of fibromyalgia. Another reason is that there are currently no diagnostic laboratory tests for fibromyalgia; standard laboratory tests fail to reveal a physiologic reason for pain. Since there is no generally accepted, objective test for fibromyalgia, some doctors unfortunately may conclude a patient's pain is not real, or they may tell the patient there is little they can do.

A doctor familiar with fibromyalgia, however, can make a diagnosis based on two criteria: a history of widespread pain lasting more than 3 months and the presence of tender points. Pain is considered to be widespread when it affects all four quadrants of the body; that is, you must have pain in both your right and left sides as well as above and below the waist to be diagnosed with fibromyalgia. 18 sites have been designated on the body as possible tender points. For a fibromyalgia diagnosis, a person must have 11 or more tender points. One of these predesignated sites is considered a true tender point only if the person feels pain upon the application of 4 kilograms of pressure to the site. People who have fibromyalgia certainly may feel pain at other sites, too, but those 18 standard possible sites on the body are the criteria used for classification.

How is Fibromyalgia Treated?

Fibromyalgia can be difficult to treat. Not all doctors are familiar with fibromyalgia and its treatment, so it is important to find a doctor who is. Many family physicians, general internists, or rheumatologists (doctors who specialize in arthritis and other conditions that affect the joints or soft tissues) can treat fibromyalgia.

Fibromyalgia treatment often requires a team approach, with your doctor, a physical therapist, possibly other health professionals, and most importantly, yourself, all playing an active role. It can be hard to assemble this team, and you may struggle to find the right professionals to treat you. When you do, however, the combined expertise of these various professionals can help you improve your quality of life.

You may find several members of the treatment team you need at a clinic. There are pain clinics that specialize in pain and rheumatology clinics that specialize in arthritis and other rheumatic diseases, including fibromyalgia.

At present, there are no medications approved by the U.S. Food and Drug Administration (FDA) for treating fibromyalgia, although a few such drugs are in development. Doctors treat fibromyalgia with a variety of medications developed and approved for other purposes.

Analgesics

Analgesics are painkillers. They range from over-the-counter acetaminophen (Tylenol*) to prescription medicines, such as tramadol (Ultram), and even stronger narcotic preparations. For a subset of people with fibromyalgia, narcotic medications are prescribed for severe muscle pain. However, there is no solid evidence showing that narcotics actually work to treat the chronic pain of fibromyalgia, and most doctors hesitate to prescribe them for long-term use because of the potential that the person taking them will become physically or psychologically dependent on them.

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)

As their name implies, nonsteroidal anti-inflammatory drugs, including aspirin, ibuprofen (Advil, Motrin), and naproxen sodium (Anaprox, Aleve), are used to treat inflammation. Although inflammation is not a symptom of fibromyalgia, NSAIDs also relieve pain. The drugs work by inhibiting substances in the body called prostaglandins, which play a role in pain and inflammation.

These medications, some of which are available without a prescription, may help ease the muscle aches of fibromyalgia. They may also relieve menstrual cramps and the headaches often associated with fibromyalgia.

Antidepressants

Perhaps the most useful medications for fibromyalgia are several in the antidepressant class. Antidepressants elevate the levels of certain chemicals in the brain, including serotonin and norepinephrine (which was formerly called adrenaline). Low levels of these chemicals are associated not only with depression, but also with pain and fatigue. Increasing the levels of these chemicals can reduce pain in people who have fibromyalgia. Doctors prescribe several types of antidepressants for people with fibromyalgia, described below.

- **Tricyclic antidepressants**—When taken at bedtime in dosages lower than those used to treat depression, tricyclic antidepressants can help promote restorative sleep in people with fibromyalgia. They also can relax painful muscles and heighten the effects of the body's natural pain-killing substances called endorphins.

Tricyclic antidepressants have been around for almost half a century. Some examples of tricyclic medications used to treat fibromyalgia include amitriptyline hydrochloride (Elavil, Endep), cyclobenzaprine (Cycloflex, Flexeril, Flexiban), doxepin (Adapin, Sinequan), and nortriptyline (Aventyl, Pamelor). Both amitriptyline and cyclobenzaprine have been proved useful for the treatment of fibromyalgia.

- **Selective serotonin reuptake inhibitors**—If a tricyclic antidepressant fails to bring relief, doctors sometimes prescribe a newer type of antidepressant called a selective serotonin reuptake inhibitor (SSRI). As with tricyclics, doctors usually prescribe these for people with fibromyalgia in lower dosages than are used to treat depression. By promoting the release of serotonin, these drugs may reduce fatigue and some other symptoms associated with fibromyalgia. The group of SSRIs includes fluoxetine (Prozac), paroxetine (Paxil), and sertraline (Zoloft).

SSRIs may be prescribed along with a tricyclic antidepressant. Doctors rarely prescribe SSRIs alone. Because they make people feel more energetic, they also interfere with sleep, which often is already a problem for people with fibromyalgia. Studies have shown that a combination therapy of the tricyclic amitriptyline and the SSRI fluoxetine resulted in greater improvements in the study participants' fibromyalgia symptoms than either drug alone.

- **Mixed reuptake inhibitors**—Some newer antidepressants raise levels of both serotonin and norepinephrine, and are therefore called mixed reuptake inhibitors. Examples of these medications include venlafaxine (Effexor) and nefazadone (Serzone). Researchers are actively studying the efficacy of these newer medications in treating fibromyalgia.

Benzodiazepines

Benzodiazepines help some people with fibromyalgia by relaxing tense, painful muscles and stabilizing the erratic brain waves that can interfere with deep sleep. Benzodiazepines also can relieve the symptoms of restless legs syndrome, which is common among people with fibromyalgia. Restless legs syndrome is characterized by unpleasant sensations in the legs as well as twitching, particularly at night. Because of the potential for addiction, doctors usually prescribe benzodiazepines only for people

who have not responded to other therapies. Benzodiazepines include clonazepam (Klonopin) and diazepam (Valium).

Other Medications

In addition to the previously described general categories of drugs, doctors may prescribe others, depending on a person's specific symptoms or fibromyalgia-related conditions. In recent years two medications, tegaserod (Zelnorm) and alosetron (Lotronex), have been approved by the FDA for the treatment of irritable bowel syndrome. Gabapentin (Neurontin) currently is being studied as a treatment for fibromyalgia. Other symptom-specific medications include sleep medications, muscle relaxants, and headache remedies.

People with fibromyalgia also may benefit from a combination of physical and occupational therapy, from learning pain-management and coping techniques, and from properly balancing rest and activity.

Complementary and Alternative Therapies

Many people with fibromyalgia also report varying degrees of success with complementary and alternative therapies, including massage, movement therapies (such as Pilates and the Feldenkrais method), chiropractic treatments, acupuncture, and various herbs and dietary supplements for different fibromyalgia symptoms.

Though some of these supplements are being studied for fibromyalgia, there is little, if any, scientific proof yet that they help. The FDA does not regulate the sale of dietary supplements, so information about side effects, the proper dosage, and the amount of a preparation's active ingredient may not be well known. If you are using or would like to try a complementary or alternative therapy, you should first speak with your doctor, who may know more about the therapy's effectiveness, as well as whether it is safe to try in combination with your medications.

Will Fibromyalgia Get Better With Time?

Fibromyalgia is a chronic condition, meaning it lasts a long time - possibly a lifetime. However, it may comfort you to know that fibromyalgia is not a progressive disease. It is never fatal, and it won't cause damage to your joints, muscles, or internal organs. In many people, the condition does improve over time.

What Can I Do to Try to Feel Better?

Besides taking medicine prescribed by your doctor, there are many things you can do to minimize the impact of fibromyalgia on your life. These include:

- **Getting enough sleep**—Getting enough sleep and the right kind of sleep can help ease the pain and fatigue of fibromyalgia.) Even so, many people with fibromyalgia have problems such as pain, restless legs syndrome, or brain-wave irregularities that interfere with restful sleep.
- **Exercising**—Though pain and fatigue may make exercise and daily activities difficult, it's crucial to be as physically active as possible. Research has repeatedly shown that regular exercise is one of the most effective treatments for fibromyalgia. People who have too much

pain or fatigue to do vigorous exercise should begin with walking or other gentle exercise and build their endurance and intensity slowly. Although research has focused largely on the benefits of aerobic and flexibility exercises, a new NIAMS-supported study is examining the effects of adding strength training to the traditionally prescribed aerobic and flexibility exercises.

- **Making changes at work**—Most people with fibromyalgia continue to work, but they may have to make big changes to do so; for example, some people cut down the number of hours they work, switch to a less demanding job, or adapt a current job. If you face obstacles at work, such as an uncomfortable desk chair that leaves your back aching or difficulty lifting heavy boxes or files, your employer may make adaptations that will enable you to keep your job. An occupational therapist can help you design a more comfortable workstation or find more efficient and less painful ways to lift.

If you are unable to work at all due to a medical condition, you may qualify for disability benefits through your employer or the Federal Government.

Social Security Disability Insurance (SSDI) and Supplemental Security Insurance (SSI) are the largest Federal programs providing financial assistance to people with disabilities. Though the medical requirements for eligibility are the same under the two programs, the way they are funded is different. SSDI is paid by Social Security taxes, and those who qualify for assistance receive benefits based on how much an employee has paid into the system; SSI is funded by general tax revenues, and those who qualify receive payments based on financial need. For information about the SSDI and SSI programs, contact the Social Security Administration.

- **Eating well**—Although some people with fibromyalgia report feeling better when they eat or avoid certain foods, no specific diet has been proven to influence fibromyalgia. Of course, it is important to have a healthy, balanced diet. Not only will proper nutrition give you more energy and make you generally feel better, it will also help you avoid other health problems.

Tips for Good Sleep

- Keep regular sleep habits. Try to get to bed at the same time and get up at the same time every day—even on weekends and vacations.
- Avoid caffeine and alcohol in the late afternoon and evening. If consumed too close to bedtime, the caffeine in coffee, soft drinks, chocolate, and some medications can keep you from sleeping or sleeping soundly. Even though it can make you feel sleepy, drinking alcohol around bedtime also can disturb sleep.
- Time your exercise. Regular daytime exercise can improve nighttime sleep. Avoid exercising within 3 hours of bedtime, which actually can be stimulating, keeping you awake.
- Avoid daytime naps. Sleeping in the afternoon can interfere with nighttime sleep. If you feel you can't get by without a nap, set an alarm for 1 hour. When it goes off, get up and start moving.
- Reserve your bed for sleeping. Watching the late news, reading a suspense novel, or working on your laptop in bed can stimulate you, making it hard to sleep.
- Keep your bedroom dark, quiet, and cool.
- Avoid liquids and spicy meals before bed. Heartburn and late night trips to the bathroom are not conducive to good sleep.

- Wind down before bed. Avoid working right up to bedtime. Do relaxing activities, such as listening to soft music or taking a warm bath, that get you ready to sleep. An added benefit of the warm bath, it may soothe aching muscles.

What are Researchers Learning About Fibromyalgia?

The NIAMS sponsors research that will improve scientists' understanding of the specific problems that cause or accompany fibromyalgia, in turn helping them develop better ways to diagnose, treat, and prevent this syndrome.

The research on fibromyalgia supported by NIAMS covers a broad spectrum, ranging from basic laboratory research to studies of medications and interventions designed to encourage behaviors that reduce pain and change behaviors that worsen or perpetuate pain. Following are descriptions of some of the promising research now being conducted.

Understanding Pain

Research suggests that fibromyalgia is caused by a problem in how the body processes pain—or more precisely, a hypersensitivity to stimuli that normally are not painful—several NIAMS-supported researchers are focusing on ways the body processes pain to better understand why people with fibromyalgia have increased pain sensitivity.

Previous research has shown that people with fibromyalgia have reduced blood flow to parts of the brain that normally help the body deal with pain. In one new NIAMS-funded study, researchers will be using imaging technology called positron emission tomography (PET) to compare blood flow in the brains of women who have fibromyalgia with those who do not. In both groups, researchers will study changes in blood flow that occur in response to painful stimuli.

Researchers speculate that female reproductive hormones may be involved in the increased sensitivity to pain characteristic of fibromyalgia. New research will examine the role of sex hormones in pain sensitivity, in reaction to stress, and in symptom perception at various points in the menstrual cycles of women with fibromyalgia and of women without it. The results from studying these groups of women will be compared with results from studies of the same factors in men without fibromyalgia over an equivalent period of time.

Another line of NIAMS-funded research involves developing a rodent model of fibromyalgia pain. Rodent models, which use mice or rats that researchers cause to develop symptoms similar to fibromyalgia in humans, could provide the basis for future research into this complex condition.

Understanding stress

Medical evidence suggests that a problem or problems in the way the body responds to physical and/or emotional stress may trigger or worsen the symptoms of any illness, including fibromyalgia. Researchers funded by NIAMS are trying to uncover and understand these problems by examining chemical interactions between the nervous system and the endocrine (hormonal) system. Scientists know that people whose bodies make inadequate amounts of the hormone cortisol experience many of

the same symptoms as people with fibromyalgia, so they also are exploring if there is a link between the regulation of the adrenal glands, which produce cortisol, and fibromyalgia.

Another NIAMS-funded study suggests that exercise improves the body's response to stress by enhancing the function of the pituitary and adrenal glands. The hormones produced by these two endocrine glands are essential to regulating sleep and emotions, as well as processing pain.

Improving sleep

Researchers supported by NIAMS are investigating ways to improve sleep for people with fibromyalgia whose sleep problems persist despite treatment with medications. One team has observed that fibromyalgia patients with persistent sleep problems share characteristics with people who have insomnia, such as having erratic sleep and wake schedules and spending too much time in bed. This team is testing whether strategies developed to help insomnia patients will also help people with fibromyalgia achieve deep sleep, which eases pain and fatigue. Preliminary results show that sleep education, which teaches good sleep habits, and cognitive behavioral therapy, which includes sleep education and a regimen to correct poor habits and improper sleep schedules, both reduce insomnia.

Looking for the family connection

Fibromyalgia appears to run in families, one group of NIAMS-supported researchers is working to identify whether a gene or genes predispose people to the condition.

Another team is trying to determine if fibromyalgia is more common in people with other conditions, such as serious mood disorders, that tend to run in families. Specifically, the group is studying the prevalence of psychiatric disorders and arthritis and related disorders in people with fibromyalgia and their first-degree relatives (parents, children, sisters, brothers) as compared to people with rheumatoid arthritis and their relatives. The group is exploring whether clusters of conditions exist in families, which might shed light on shared common risk factors or disease processes.

Studying and targeting treatments

NIAMS recently funded its first study of a drug treatment for fibromyalgia. The study will measure the effectiveness of gabapentin, an anticonvulsant medication, in reducing symptoms of fibromyalgia. Gabapentin has been found to relieve chronic pain caused by nervous system disorders, and it was recently approved by the FDA for the treatment of persistent, severe pain that can follow an episode of shingles.

Scientists recognize that people with fibromyalgia often fall into distinct subgroups that adapt to and cope with their symptoms differently. They also realize that these subgroups may respond to treatments differently. One NIAMS-funded team of researchers has divided people with fibromyalgia into three groups based on how they cope with the condition. Relative to other chronic pain patients, those in the first group have higher levels of pain and report more interference in their life due to pain. They also have higher levels of emotional distress, and feel less control over their lives and are less active. The second group reports receiving less support from others, higher levels of negative responses from significant others, and lower levels of supportive responses from significant others. Those in the third

group are considered adaptive copers; they have less pain, report less interference in their lives due to pain, and have less emotional distress. Members of this last group feel more control over their lives and are more active. On the premise that the better you understand the subgroups, the better you can tailor treatments to fit them, the researchers now are trying to design and test different programs for each group, combining physical therapy, interpersonal skills training, and supportive counseling.

GOUT

What Is Gout?

Gout is one of the most painful rheumatic diseases. It results from deposits of needle-like crystals of uric acid in connective tissue, in the joint space between two bones, or in both. These deposits lead to inflammatory arthritis, which causes swelling, redness, heat, pain, and stiffness in the joints. The term *arthritis* refers to more than 100 different rheumatic diseases that affect the joints, muscles, and bones, as well as other tissues and structures. Gout accounts for approximately 5 percent of all cases of arthritis.

Pseudogout is sometimes confused with gout because it produces similar symptoms of inflammation. However, in this condition, also called chondrocalcinosis, deposits are made up of calcium phosphate crystals, not uric acid. Therefore, pseudogout is treated somewhat differently.

Uric acid is a substance that results from the breakdown of purines, which are part of all human tissue and are found in many foods. Normally, uric acid is dissolved in the blood and passed through the kidneys into the urine, where it is eliminated. If the body increases its production of uric acid or if the kidneys do not eliminate enough uric acid from the body, levels of it build up in the blood (a condition called hyperuricemia). Hyperuricemia also may result when a person eats too many high-purine foods, such as liver, dried beans and peas, anchovies, and gravies. Hyperuricemia is not a disease and by itself is not dangerous. However, if excess uric acid crystals form as a result of hyperuricemia, gout can develop. The excess crystals build up in the joint spaces, causing inflammation. Deposits of uric acid, called tophi (singular: tophus), can appear as lumps under the skin around the joints and at the rim of the ear. In addition, uric acid crystals can collect in the kidneys and cause kidney stones.

For many people, gout initially affects the joints in the big toe. Sometime during the course of the disease, gout will affect the big toe in about 75 percent of patients. It also can affect the instep, ankles, heels, knees, wrists, fingers, and elbows. The disease can progress through four stages:

- Asymptomatic (without symptoms) hyperuricemia - In this stage, a person has elevated levels of uric acid in the blood but no other symptoms. A person in this stage does not usually require treatment.
- Acute gout, or acute gouty arthritis - In this stage, hyperuricemia has caused the deposit of uric acid crystals in joint spaces. This leads to a sudden onset of intense pain and swelling in the joints, which also may be warm and very tender. An acute attack commonly occurs at night and can be triggered by stressful events, alcohol or drugs, or the presence of another illness. Early attacks usually subside within 3 to 10 days, even without treatment, and the next attack may not occur for months or even years. Over time, however, attacks can last longer and occur more frequently.

- Interval or intercritical gout - This is the period between acute attacks. In this stage, a person does not have any symptoms and has normal joint function.
- Chronic tophaceous gout - This is the most disabling stage of gout and usually develops over a long period, such as 10 years. In this stage, the disease has caused permanent damage to the affected joints and sometimes to the kidneys. With proper treatment, most people with gout do not progress to this advanced stage.

What Causes Gout?

A number of risk factors are related to the development of hyperuricemia and gout:

- Genetics may play a role in determining a person's risk, since up to 18 percent of people with gout have a family history of the disease.
- Gender and age are related to the risk of developing gout; it is more common in men than in women and more common in adults than in children.
- Being overweight increases the risk of developing hyperuricemia and gout because there is more tissue available for turnover or breakdown, which leads to excess uric acid production.
- Drinking too much alcohol can lead to hyperuricemia because it interferes with the removal of uric acid from the body.
- Eating too many foods rich in purines can cause or aggravate gout in some people.
- An enzyme defect that interferes with the way the body breaks down purines causes gout in a small number of people, many of whom have a family history of gout.
- Exposure to lead in the environment can cause gout.

Some people who take certain medicines or have certain conditions are at risk for having high levels of uric acid in their body fluids. For example, the following types of medicines can lead to hyperuricemia because they reduce the body's ability to remove uric acid:

- Diuretics, which are taken to eliminate excess fluid from the body in conditions like hypertension, edema, and heart disease, and which decrease the amount of uric acid passed in the urine
- Salicylates, or anti-inflammatory medicines made from salicylic acid, such as aspirin
- The vitamin niacin, also called nicotinic acid
- Cyclosporine, a medicine used to suppress the body's immune system (the system that protects the body from infection and disease) and control the body's rejection of transplanted organs
- Levodopa, a medicine used to support communication along nerve pathways in the treatment of Parkinson's disease

Who is Likely to Develop Gout?

Gout occurs in approximately 840 out of every 100,000 people. It is rare in children and young adults. Adult men, particularly those between the ages of 40 and 50, are more likely to develop gout than women, who rarely develop the disorder before menopause. People who have had an organ transplant are more susceptible to gout.

How is Gout Diagnosed?

Gout may be difficult for doctors to diagnose because the symptoms may be vague, and they often mimic other conditions. Although most people with gout have hyperuricemia at some time during the course of their disease, it may not be present during an acute attack. In addition, having hyperuricemia alone does not mean that a person will get gout. In fact, most people with hyperuricemia do not develop the disease.

To confirm a diagnosis of gout, a doctor may insert a needle into an inflamed joint and draw a sample of synovial fluid, the substance that lubricates a joint. A laboratory technician places some of the fluid on a slide and looks for monosodium urate crystals under a microscope. Their absence, however, does not completely rule out the diagnosis. The doctor also may find it helpful to examine chalky, sodium urate deposits (tophi) around joints to diagnose gout. Gout attacks may mimic joint infections, and a doctor who suspects a joint infection (rather than gout) may check for the presence of bacteria.

Signs and Symptoms of Gout

- Hyperuricemia
- Presence of uric acid crystals in joint fluid
- More than one attack of acute arthritis
- Arthritis that develops in 1 day, producing a swollen, red, and warm joint
- Attack of arthritis in only one joint, usually the toe, ankle, or knee

How is Gout Treated?

With proper treatment, most people with gout are able to control their symptoms and live productive lives. Gout can be treated with one or a combination of therapies. The goals of treatment are to ease the pain associated with acute attacks, to prevent future attacks, and to avoid the formation of tophi and kidney stones. Successful treatment can reduce both the discomfort caused by the symptoms of gout and long-term damage of the affected joints. Treatment will help to prevent disability due to gout.

The most common treatments for an acute attack of gout are high doses of nonsteroidal anti-inflammatory drugs (NSAIDs) taken orally (by mouth) or corticosteroids, which are taken orally or injected into the affected joint. NSAIDs reduce the inflammation caused by deposits of uric acid crystals but have no effect on the amount of uric acid in the body. The NSAIDs most commonly prescribed for gout are indomethacin (Indocin*) and naproxen (Anaprox, Naprosyn), which are taken orally every day. Corticosteroids are strong anti-inflammatory hormones. The most commonly prescribed corticosteroid is prednisone. Patients often begin to improve within a few hours of treatment with a corticosteroid, and the attack usually goes away completely within a week or so.

When NSAIDs or corticosteroids do not control symptoms, the doctor may consider using colchicine. This drug is most effective when taken within the first 12 hours of an acute attack. Doctors may ask patients to take oral colchicine as often as every hour until joint symptoms begin to improve or side effects such as nausea, vomiting, abdominal cramps, or diarrhea make it uncomfortable to continue the drug.

For some patients, the doctor may prescribe either NSAIDs or oral colchicine in small daily doses to prevent future attacks. The doctor also may consider prescribing medicine such as allopurinol (Zyloprim) or probenecid (Benemid) to treat hyperuricemia and reduce the frequency of sudden attacks and the development of tophi.

What Can People With Gout Do to Stay Healthy?

- To help prevent future attacks, take the medicines your doctor prescribes. Carefully follow instructions about how much medicine to take and when to take it. Acute gout is best treated when symptoms first occur.
- Tell your doctor about all the medicines and vitamins you take. He or she can tell you if any of them increase your risk of hyperuricemia.
- Plan follow-up visits with your doctor to evaluate your progress.
- Maintain a healthy, balanced diet; avoid foods that are high in purines; and drink plenty of fluids, especially water. Fluids help remove uric acid from the body.
- Exercise regularly and maintain a healthy body weight. Lose weight if you are overweight, but do not go on diets designed for quick or extreme loss of weight because they increase uric acid levels in the blood.

What Research is Being Conducted to Help People With Gout?

Scientists are studying which NSAIDs are the most effective gout treatments, and they are analyzing new compounds to develop safe, effective medicines to lower the level of uric acid in the blood and to treat symptoms. They also are studying the structure of the enzymes that break down purines in the body to achieve a better understanding of the enzyme defects that can cause gout.

Scientists are studying the effect of crystal deposits on cartilage cells for clues to treatment. They also are looking at the role of calcium deposits in pseudogout in the hope of developing new treatments. The role genetics and environmental factors play in hyperuricemia also is being investigated.

CEU QUESTIONNAIRE

Complete the questions below to receive 10.5 continuing education credits. All questions must be answered completely to receive credit.

1. Where does the word “fibromyalgia” come from? _____

2. What is fibromyalgia characterized by? _____

3. Where are tender points on the body? _____

4. What is a tender point? _____

5. Why is fibromyalgia not a form of arthritis? _____

6. Define rheumatic. _____

7. Name 2 things people with fibromyalgia may endure. _____

8. Define syndrome. _____

9. Who gets fibromyalgia more often? _____

10. Name 2 suspected causes of fibromyalgia. _____

11. Why do people seem to see many doctors before being diagnosed? _____

12. Describe the 2 criteria of diagnosis. _____

13. What is required for pain to be considered widespread? _____

14. For a fibromyalgia diagnosis, how many tender point must a person have? _____

15. How much pressure is used to define a tender point? _____

16. Are there any medications for fibromyalgia that are approved by the FDA? _____

17. Name a drug that is commonly used for fibromyalgia. _____

18. What are analgesics? _____

19. What is one potential problem with long-term use of analgesics? _____

20. What are nonsteroidal anti-inflammatory drugs? _____

21. What role do prostaglandins play in the body? _____

22. Why are antidepressants useful? _____

23. What are tricyclic antidepressants? _____

24. What are selective serotonin reuptake inhibitors? _____

25. What are mixed reuptake inhibitors? _____

26. What benefit do benzodiazepines give? _____

27. Name one other drug used to help treat fibromyalgia. _____

28. Name an alternative therapy. _____

29. Does fibromyalgia damage joints? _____

30. What happens to restful sleep when someone has fibromyalgia? _____

31. Why is exercise important in relation to fibromyalgia? _____

32. What kind of aid is available if fibromyalgia prevents one from being able to work? _____

33. How does the balanced diet help a person effected by fibromyalgia? _____

34. What is the recommendation when it comes to caffeine for someone with fibromyalgia? _____

35. Why avoid daytime naps? _____

36. Name 2 ways to enhance sleep. _____

37. What happens to blood flow in the brain of someone with fibromyalgia? _____

38. How may the female reproductive hormone be involved in fibromyalgia? _____

39. How may stress be involved in fibromyalgia? _____

40. Why are researchers looking for a family connection in fibromyalgia? _____

41. What is gout the result of? _____

42. Define arthritis. _____

43. What is uric acid? _____

44. What is hyperuricemia? _____

45. What can cause kidney stones? _____

46. What part of the body does gout initially effect? _____

47. Describe acute gout. _____

48. What is interval gout? _____

49. Who appears to suffer most from gout? _____

50. Why is being overweight a gout risk-factor? _____

51. Why is alcohol a problem concerning gout? _____

52. Name a medication that can be a risk-factor for gout. _____

53. How is gout diagnosed? _____

54. What is the most common treatment for gout? _____

55. When is colchicine used? _____

56. Why is drinking fluids important? _____

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